

**WHAT IS CLAIMED IS:**

1                   1.     A method for identifying an HLA genotype of a subject, the  
2     method comprising:  
3                   (a) obtaining a sample comprising a template nucleic acid from said  
4     subject;  
5                   (b) amplifying said template nucleic acid with a plurality of HLA allele-  
6     specific forward primers and HLA allele-specific reverse primers to form amplification  
7     products,  
8                                 wherein said forward primers or reverse primers comprise a  
9                                 detectable label;  
10                   (c) hybridizing said amplification products with a plurality of HLA locus-  
11     specific capture oligonucleotides immobilized on a solid phase to form a plurality of  
12     detectable complexes; and  
13                   (d) detecting said detectable complexes to identify said HLA genotype of  
14     said subject.

1                   2.     A method for identifying an HLA genotype of a subject, the  
2     method comprising:  
3                   (a) obtaining a sample comprising a template nucleic acid from said  
4     subject;  
5                   (b) amplifying said template nucleic acid with a plurality of HLA allele-  
6     specific forward primers and HLA allele-specific reverse primers to form amplification  
7     products,  
8                                 wherein said forward primers or reverse primers comprise a  
9                                 detectable label;  
10                   (c) hybridizing said amplification products with a plurality of HLA locus-  
11     specific capture oligonucleotides to form a plurality of detectable complexes;  
12                   (d) immobilizing said detectable complexes on a solid phase; and  
13                   (e) detecting said detectable complexes to identify said HLA genotype of  
14     said subject.

1                   3.     The method according to claim 1 or 2, wherein said template  
2     nucleic acid is isolated from blood or cord blood.

1 4. The method according to claim 1 or 2, wherein said template  
2 nucleic acid is cDNA or genomic DNA.

1 5. The method according to claim 1 or 2, wherein said solid phase is a  
2 member selected from the group consisting of: a bead, a chip, a microtiter plate, a  
3 polycarbonate microtiter plate, polystyrene microtiter plate, and a slide.

1 6. The method according to claim 1 or 2, wherein said HLA genotype  
2 is a class I HLA genotype.

1 7. The method according to claim 1 or 2, wherein said HLA allele-  
2 specific forward primers and HLA allele-specific reverse primers are selected from the  
3 group consisting of:

4 SEQ ID NOS:1-160.

1 8. The method according to claim 1 or 2, wherein said locus-specific  
2 capture oligonucleotides are selected from the group consisting of:

3 SEQ ID NOS:165-168.

1 9. The method according to claim 8, wherein said capture  
2 oligonucleotides further comprise a 5' amine group of a 5'(T)<sub>5-20</sub> oligonucleotide  
3 sequence.

1 10. The method according to claim 1 or 2, wherein said HLA genotype  
2 is a class II HLA genotype.

Sub D1 11. The method according to claim 1 or 2, wherein said HLA allele-  
2 specific forward primers and HLA allele-specific reverse primers are selected from the  
3 group consisting of: selected from the group consisting of:

4 SEQ ID NOS: 169-269.

1 Sub D1 12. The method according to claim 1 or 2, wherein said locus-specific  
2 capture oligonucleotides are selected from the group consisting of:

3 SEQ ID NOS: 270-275.

1 13. The method according to claim 12, wherein said capture  
2 oligonucleotides further comprise a 5' amine group or a 5'(T)<sub>5-20</sub> oligonucleotide  
3 sequence.

1 14. The method according to claim 1 or 2, wherein said detectable  
2 label comprises a member selected from the group consisting of:  
3 radioactive moiety, a fluorescent moiety, a chemiluminescent moiety, an  
4 antigen, and a binding protein.

1 15. The method of claim 14, wherein said fluorescent moiety is  
2 fluorescein or 5-(2'-aminoethyl) aminonaphthalene-1-sulfonic acid (EDANS).

1 16. A method for identifying an HLA genotype of a subject, the  
2 method comprising:  
3 (a) isolating template nucleic acid from a sample from said subject;  
4 (b) immobilizing a plurality of HLA allele-specific reverse primers on a  
5 solid phase;  
6 (c) amplifying said template nucleic acid with a plurality of HLA allele-  
7 specific forward primers and said immobilized reverse HLA allele-specific reverse  
8 primers to form amplification products,  
9 wherein said forward primers comprise a detectable label; and  
10 (d) detecting said amplification products to identify said HLA genotype of  
11 said subject.

1 17. The method according to claim 16, wherein said template nucleic  
2 acid is cDNA or genomic DNA.

1 18. The method according to claim 16, wherein said template nucleic  
2 acid is isolated from blood or cord blood.

1 19. The method according to claim 16, wherein said solid phase is a  
2 member selected from the group consisting of: a bead, a chip, a microtiter plate, a  
3 polycarbonate microtiter plate, polystyrene microtiter plate, and a slide.

1 20. The method according to claim 16, wherein said HLA genotype is  
2 a class I HLA genotype.

1 21. The method according to claim 16, wherein said HLA allele-  
2 specific reverse primers and said HLA allele-specific forward primers are selected from  
3 the group consisting of:

4 SEQ ID NOS:1-160.

1 22. The method according to claim 16 wherein said HLA allele-  
2 specific reverse primers further comprise a 5' amine group or a 5'(T)<sub>5-20</sub> oligonucleotide  
3 sequence.

1 23. The method according to claim 16, wherein said HLA genotype is  
2 a class II HLA genotype.

1 24. The method according to claim 16, wherein said HLA allele-  
2 specific reverse primers and said HLA allele-specific forward primers are selected from  
3 the group consisting of:

4 SEQ ID NOS: 169-269.

1 25. The method according to claim 16, wherein said detectable label  
2 comprises a member selected from the group consisting of:  
3 radioactive moiety, a fluorescent moiety, a chemiluminescent moiety, an  
4 antigen, and a binding protein.

1 26. The method of claim 25, wherein said fluorescent moiety is  
2 fluorescein or 5-(2'-aminoethyl) aminonaphtalene-1-sulfonic acid (EDANS).

1 27. The method of claim 16 wherein said forward primers and said  
2 reverse primers are selected from the group consisting of:

3 SEQ ID NOS:1-160.

1 28. The method of claim 16, wherein said forward primers and said  
2 reverse primers are selected from the group consisting of:

3 SEQ ID NOS: 169-269.